

including April 6, 2005. The Petition is accompanied by the appropriate Small-Entity Petition fee of \$510.00. Kindly amend the subject application as follows:

In the Specification:

On page 2, before "SUMMARY OF THE INVENTION," kindly add the following:

--Sound can only be modified by three processes, namely absorption, reflection and diffusion. Sound is attenuated by absorption, redirected by reflection and uniformly scattered by diffusion. Diffusion is a relatively new concept in architectural acoustics, however, it can be conceptually understood by comparison with air diffusers and light diffusers. Air diffusers, which are used in all HVAC systems, uniformly distribute air to provide uniform temperature. Light diffusers uniformly scatter light to provide uniform luminosity. Sound diffusers uniformly scatter sound to provide uniform sound coverage.

Diffraction: A general term in acoustics that refers to the change in the direction of propagation of sound energy in the neighborhood of a boundary discontinuity, such as the edge of a reflective or absorptive surface.

Absorption: In acoustics, absorption refers to the process in which incident sound is attenuated by converting acoustic energy into heat. Acoustic materials are measured and characterized by ASTM C-423 and ISO 354.

Reflection: For surfaces large compared to the wavelength of the incident sound, sound is reflected much as light is reflected from a mirror, with the angle of incidence equaling the angle of reflection. Reflecting surfaces are measured and characterized by AES-4id-2001 and ISO 17497-1:2004.

Diffusion: In acoustics, diffusion refers to a type of scattering in which all of the incident energy that is available to be scattered is uniformly distributed, irrespective of the angle of incidence, for a broad range of frequencies. Diffusing surfaces are measured and characterized by AES-4id-2001 and ISO 17497-1:2004. -<sup>2</sup>

Replacement Specification pages follow.

of the diffusing device. The present invention distinguishes itself from this mounting method, by providing a series of means, via holes, slots or microperforations, for low frequency absorption within the body of the diffusing device, as opposed to between devices, thereby providing diffusion and absorption in a self-contained device.

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#### SUMMARY OF THE INVENTION

The present invention relates to a sound diffuser with low frequency sound absorption. The present invention includes the following interrelated objects, aspects and features:

(1) In a first aspect, the present invention may be practiced by performing modifications on existing diffusers as they are known in the prior art. In this regard, means are incorporated into a diffusive surface to provide sound absorption below a pre-set frequency.

(2) In a first example of such a modification, Applicant's Assignee manufactures a diffuser known by the registered Trademark "FLUTTERFREE®". The "FLUTTERFREE®" diffuser may be modified by creating through-holes in certain wells of the diffuser that allow sound to travel through the diffuser to the rear thereof where an absorptive material may be located. The absorptive material may be made of any suitable material such as fiber glass, foam or mineral wool. As will be described in greater detail hereinafter, the cut-

In the Claims:

Kindly find below, a reproduction of all claims pending in this application with Claim 1 shown as amended, as follows: